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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/722,159

11/26/2003

Byung-Se So

SEC.1092

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08/09/2005

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EXAMINER

NGUYEN, DILINH P

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/722,159

Applicant(s)

SO ET AL.

Examiner

DiLinh Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 5-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of first embodiment, claims 1-4 in the reply filed on 7/22/05 is acknowledged. The traversal is on the ground(s) that the claims are never species and the election of species requirement as being improper. This is not found persuasive because:

This application contains claims directed to the following patentably distinct species of the claimed invention:

Embodiment 1: figs. 6-8.

Embodiment 2: fig. 9.

Embodiment 3: fig. 10.

Embodiment 4: fig. 11.

a) The above 4 different embodiments show the need for four entirely different fields of search.

b) Non-restriction would mean that if one of the inventions were held to be unpatentable then other would also be inherently held to be unpatentable. Therefore, restriction is proper since there are apparently four different inventive concepts in making the device and in the device itself.

The requirement is still deemed proper and is therefore made FINAL.

Drawings

Figures 1-5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in

compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. (U.S. Pub. 2003/0015733) in view of Perino et al. (U.S. Pat. 6621155).

Hayashi et al. disclose a multi-chip package, comprising:

- a plurality of pins; and
- a semiconductor chip includes,
 - an input/output pad PT2A-PT2C,
 - an input/output driver (Address Buffer Circuit 21, Command Decoder Circuit 25" or Word Driver Circuit 26) coupled to the input/output pad,
 - an internal circuit (30, 42 or 40),
 - and an internal pad 29 for coupling the input/output driver and the internal circuit

(fig. 7, paragraph 0066).

Hayashi et al. do not explicitly disclose the input/output pad of the first semiconductor chip directly receives an input/output signal transmitted via a corresponding one of the pins of the multi-chip package, and wherein the second through Nth semiconductor chips indirectly receive the input/output signal via the internal pads, which are coupled to each other.

However, Perino et al. disclose a multi-chip package comprising:

internal pads of the first 920 through Nth semiconductor chips (910a-910d) are coupled to each other, wherein the input/output pad of the first semiconductor chip 920 directly receives an input/output signal transmitted via a corresponding one of the pins of the multi-chip package, and wherein the second through Nth semiconductor chips (910a-910d) indirectly receive the input/output signal via the internal pads, which are coupled to each other (fig. 9, column 14, lines 17 et seq.). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device structure of Hayashi et al. by having the internal pads of the chips are coupled to each other and the second through Nth semiconductor chips indirectly receive the input/output signal via the internal pads, as taught by Perino et al., in order to provide an IC device having stacked dies with effectively isolating pins to be on the multi-chip device (column 14, lines 29-30).

- Regarding claim 2, Perino et al. disclose that the internal pads are coupled to each other via a common pad installed at a substrate 960 (fig. 9).

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- Regarding claim 3, Perino et al. disclose that the input/output pad of the first semiconductor chip is bonded to one of the pins of the multi-chip package (fig. 9).
- Regarding claim 4, it would have been obvious to one having ordinary skill in the art to have each of the first through (N-1)th semiconductor chips includes a delay circuit for receiving the input/output signal simultaneously with the internal circuit of the Nth semiconductor chip.

Conclusion

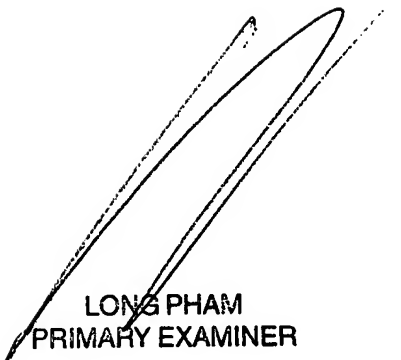
Any inquiry concerning this communication or earlier communications from the examiner should be directed to DiLinh Nguyen whose telephone number is (571) 272-1712. The examiner can normally be reached on 8:00AM - 6:00PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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DLN



LONG PHAM
PRIMARY EXAMINER

LONG PHAM